

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)



Applicant's or agent's file reference P99SC003/PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/KR99/00765	International filing date (day/month/year) 08 DECEMBER 1999 (08.12.1999)	(Earliest) Priority Date (day/month/year) 08 DECEMBER 1998 (08.12.1998)
Applicant SK TELECOM CO., LTD et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
 - a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
 - b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
2. **Certain claims were found unsearchable (See Box I).**
3. **Unity of invention is lacking (See Box II).**
4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:
5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawing to be published with the abstract is Figure No. 3b

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR99/00765

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04B 7/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 H04B 7/26, H04B 7/212, H04Q 7/00, H04J 13/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US. A. 5541979 (ALLEN TELECOM GROUP, INC.) 30 JULY 1996 column 3, line 39 - column 4, line 56	10
Y	US. A. 5781541 (BELL ATLANTIC NETWORK SERVICES, INC.) 14 JULY 1998 column 4, line 54 - column 6, line 19	10

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search 15 MARCH 2000 (15.03.2000)	Date of mailing of the international search report 24 MARCH 2000 (24.03.2000)
Name and mailing address of the ISA/KR Korean Industrial Property Office Government Complex-Taejon, Dunsan-dong, So-ku, Taejon Metropolitan City 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KANG, Heum Jung Telephone No. 82-42-481-5708



PCT REQUEST

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0 0-1	For receiving Office use only International Application No.	
0-2	International Filing Date	
0-3	Name of receiving Office and "PCT International Application"	
0-4 0-4-1	Form - PCT/RO/101 PCT Request Prepared using	PCT-EASY Version 2.90 (updated 06.12.1999)
0-5	Petition The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	Korean Industrial Property Office (RO/KR)
0-7	Applicant's or agent's file reference	P99SC003/PCT
I	Title of invention	METHOD AND APPARATUS FOR EXPANDING CELL COVERAGE IN MOBILE TELECOMMUNICATION SYSTEMS
II	Applicant This person is:	applicant only
II-1	Applicant for	all designated States except US
II-4	Name	SK TELECOM CO., LTD
II-5	Address:	267, Namdaemunno 5-ka, Jung-ku 100-095 Seoul Republic of Korea
II-6	State of nationality	KR
II-7	State of residence	KR
II-8	Telephone No.	82-02-705-0433
III-1	Applicant and/or inventor This person is:	applicant and inventor
III-1-1	Applicant for	US only
III-1-4	Name (LAST, First)	LEE, Jun-Woo
III-1-5	Address:	#303-2402 Daerim Apt., Shindorim-dong, Kuro-ku 152-070 Seoul Republic of Korea
III-1-6	State of nationality	KR
III-1-7	State of residence	KR

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III-2	Applicant and/or inventor	
III-2-1	This person is:	applicant and inventor
III-2-2	Applicant for	US only
III-2-4	Name (LAST, First)	KO, Byung-Jin
III-2-5	Address:	#320-1010 Hanshin Apt., Chamwon-dong, Seocho-ku 137-030 Seoul Republic of Korea
III-2-6	State of nationality	KR
III-2-7	State of residence	KR
III-3	Applicant and/or inventor	
III-3-1	This person is:	applicant and inventor
III-3-2	Applicant for	US only
III-3-4	Name (LAST, First)	JUNG, Ha-Jae
III-3-5	Address:	#103-1503 Hyundai Apt., 816-3 Yongjeong-ri, Jingeon-myun, Namyangju-shi 472-830 Kyoungki-do Republic of Korea
III-3-6	State of nationality	KR
III-3-7	State of residence	KR
III-4	Applicant and/or inventor	
III-4-1	This person is:	applicant and inventor
III-4-2	Applicant for	US only
III-4-4	Name (LAST, First)	HONG, Sung-Cheol
III-4-5	Address:	#203-1004 Keumho Apt., Hoky-e-dong, Dongan-ku, Anyang-shi 431-080 Kyoungki-do Republic of Korea
III-4-6	State of nationality	KR
III-4-7	State of residence	KR
III-5	Applicant and/or inventor	
III-5-1	This person is:	applicant and inventor
III-5-2	Applicant for	US only
III-5-4	Name (LAST, First)	SIM, Seon-Ho
III-5-5	Address:	#806 Kungjeon Apt., 127-1 Shinworl 1-dong, Yangcheon-ku 158-091 Seoul Republic of Korea
III-5-6	State of nationality	KR
III-5-7	State of residence	KR

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IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: Name (LAST, First) Address:	agent WONN, Seok-Hee Haecheon Bldg., 741-40 Yeoksam 1-dong, Kangnam-ku 135-081 Seoul Republic of Korea 82-02-555-7503 82-02-553-1450 sspat@shinsung-patent.co.kr
V	Designation of States	
V-1	Regional Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	EP: AT BE CH&LI CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE and any other State which is a Contracting State of the European Patent Convention and of the PCT
V-2	National Patent (other kinds of protection or treatment, if any, are specified between parentheses after the designation(s) concerned)	AU CN JP US
V-5	Precautionary Designation Statement In addition to the designations made under items V-1, V-2 and V-3, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except any designation(s) of the State(s) indicated under item V-6 below. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.	
V-6	Exclusion(s) from precautionary designations	NONE
VI-1	Priority claim of earlier national application	
VI-1-1	Filing date	08 December 1998 (08.12.1998)
VI-1-2	Number	1998-53725
VI-1-3	Country	KR
VI-2	Priority claim of earlier national application	
VI-2-1	Filing date	06 August 1999 (06.08.1999)
VI-2-2	Number	1999-32389
VI-2-3	Country	KR
VII-1	International Searching Authority Chosen	Korean Industrial Property Office (KIPO) (ISA/KR)

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VIII	Check list	number of sheets	electronic file(s) attached
VIII-1	Request	4	-
VIII-2	Description	11	-
VIII-3	Claims	7	-
VIII-4	Abstract	1	p99sc003.txt
VIII-5	Drawings	9	-
VIII-7	TOTAL	32	
	Accompanying items	paper document(s) attached	electronic file(s) attached
VIII-8	Fee calculation sheet	✓	-
VIII-9	Separate signed power of attorney	✓	-
VIII-16	PCT-EASY diskette	-	diskette
VIII-18	Figure of the drawings which should accompany the abstract	3b	
VIII-19	Language of filing of the international application	Korean	
IX-1	Signature of applicant or agent		
IX-1-1	Name (LAST, First)	WONN, Seok-Hee	

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10-1	Date of actual receipt of the purported international application	
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/KR
10-6	Transmittal of search copy delayed until search fee is paid	

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11-1	Date of receipt of the record copy by the International Bureau	
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